SESSION II:

DISASTER FIRE SUPPRESSION

DISASTER FIRE SUPPRESSION

SESSION II

DISASTER FIRE SUPPRESSION

TIME: 2 hours 30 minutes

OBJECTIVES At the conclusion of this session, the participants will be able to:

1. Explain the role of the CERT in fire suppression.
2. Identify and reduce potential fire risks in the home and workplace.
3. Conduct a basic size-up for a fire emergency.
4. Operate a portable fire extinguisher correctly.
5. Understand minimum safety precautions, including safety equipment, utility control, buddy system, and back-up teams.

SCOPE

- Introduction And Session Overview
- Fire Chemistry
- Hazardous Materials
- Reducing Fire Hazards In Home And Office
- CERT Size-Up
- Firefighting Resources
- Fire Suppression Safety
- Exercise: Fire Suppression

TRAINING METHODS

The lead instructor will begin this session by welcoming the participants back to Session II: Disaster Fire Suppression and introducing any new instructors. The instructor will then begin with a brief overview of the CERT function and responsibilities for fire suppression and the importance of neighborhood fire control.

DISASTER FIRE SUPPRESSION

TRAINING METHODS (Continued)

As an introduction to fire suppression, the instructor will describe fire chemistry and the classes of fire, and emphasize the importance of selecting the correct methods or agent for fire suppression.

Next, the instructor will lead an interactive discussion of hazardous materials, including where they are found, placarding, storage, and defensive strategies for hazardous materials accidents. Then the instructor will present an overview of hazards in the home and office, including electrical hazards, natural gas hazards, and flammable and combustible liquids, and lead a discussion of hazard mitigation and preparedness.

The instructor will then describe CERT fire suppression strategy using size-up and explain how to use the size-up checklist from the Participant Handbook.

The next topic will be a discussion of firefighting resources, including portable fire extinguishers and creative resources such as pools, dirt or sand, and a garden hose. Emphasis will be placed on portable fire extinguishers because they will be the most common resource available to CERTs. Discussion of portable fire extinguishers will include types, extinguisher components, deciding to use a fire extinguisher, and correct operation.

Safe fire suppression will be the next topic. The instructor will introduce the use of fire safety equipment. The instructor will place special emphasis on firefighter safety rules, including the buddy system and backup team, and techniques for fighting fires (e.g., confine the fire, stay low to the ground, identify a second exit route, etc.).

Finally, the session will end with an exercise in which the participants will operate in teams of two and use a portable fire extinguisher to extinguish a burning liquid.

REFERENCES

Community Emergency Response Team Instructor Guide
Community Emergency Response Team Participant Handbook
Visuals 2.1 through 2.16

DISASTER FIRE SUPPRESSION

EQUIPMENT

In addition to the equipment listed at the front of this Instructor Guide, you will need the following equipment for this session:

- Samples of NFPA 704 Diamond and other hazardous materials placards, if possible.
- 1 roll of cotton swabbing.
- 1 Pyrex® jar with lid.
- 1 box of wooden kitchen matches.
- 1 water fire extinguisher.
- 1 dry chemical fire extinguisher.
- Portable Class A and B:C fire extinguishers, half as many as there are participants. (A:B:C extinguishers may also be used.)
- 1 pan containing a layer of water beneath a layer of diesel fuel/gasoline mixture.
- Road flares and a long pole.

If time permits, the use of the video *Fire Extinguishers: Fight or Flight* is recommended for this session. The video provides information on the basic elements of fire, and shows how to use different types of extinguishers. It is available through:

National Fire Protection Administration
1 Batterymarch Park
Quincy, MA 02269
1/800/344-3555

Also recommended is the video *On Fire: A Family Guide to Fire Safety*, which contains useful footage on fire chemistry, flashover, the use of a fire extinguisher, and putting out kitchen fires. It is available through:

KCET Video
4401 Sunset Boulevard
Los Angeles, CA 90027
1/800/343-4727

If using the video(s), the following additional equipment will be required:

- Videocassette player.
- Monitor.

DISASTER FIRE SUPPRESSION

NOTES

Remember to localize this session with the use of slides (common fire hazards, local buildings, etc.).

A suggested time plan for this unit is as follows:

Introduction And Session Overview .....10 minutes
Fire Chemistry.....10 minutes
Hazardous Materials.....10 minutes
Reducing Fire Hazards In Home And Office.....15 minutes
CERT Size-Up.....5 minutes
Firefighting Resources .....25 minutes
Fire Suppression Safety.....10 minutes
Exercise: Fire Suppression.....60 minutes
Session Summary .....5 minutes

Total Time: 2 hours 30 minutes

DISASTER FIRE SUPPRESSION

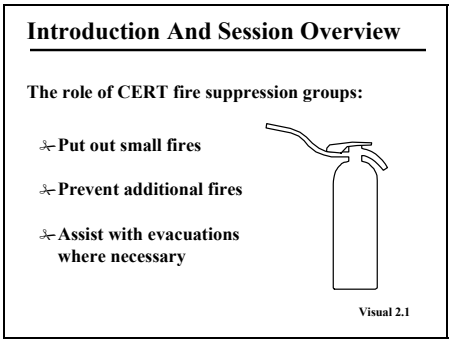
INSTRUCTOR NOTES | **CONTENT/ACTIVITY**

Total Unit:
2 hours 30 minutes

Total Topic:
10 minutes

Participant Handbook, page PHII-3.

Visual 2.1



SESSION II: DISASTER FIRE SUPPRESSION

INTRODUCTION AND SESSION OVERVIEW

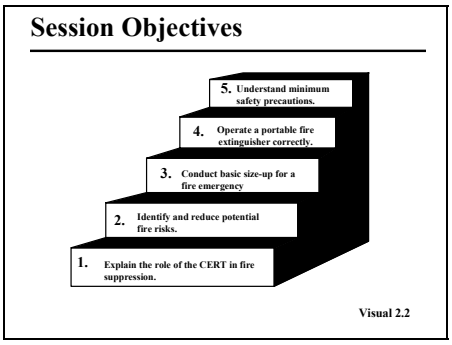
- Welcome the participants to Session II of the CERT training program.
- Introduce any new instructors who will be assisting with the session.
- Introduce disaster fire suppression by telling the participants that during and immediately after a disaster, the first priorities of professional fire services are life safety and extinguishing *major* fires. They may be hampered by impassable roads, inadequate water supply, weather conditions, burning material, and inadequate resources.
- Emphasize that, at this time, CERT fire suppression groups will play a very important role in firefighting and fire prevention by:
  - Putting out small fires before they become major fires.
  - Preventing additional fires by removing fuel sources.
  - Assisting with evacuations where necessary.
- Stress the important role that CERTs will play in neighborhood fire control.

DISASTER FIRE SUPPRESSION

INSTRUCTOR NOTES

CONTENT/ACTIVITY

Visual 2.2



SESSION OBJECTIVES

- Tell the participants that at the end of this session, they will be able to:
  - Explain the role of the CERT in fire suppression.
  - Identify and reduce potential fire risks in the home and workplace.
  - Conduct a basic size-up for a fire emergency.
  - Operate a portable fire extinguisher correctly.
  - Understand minimum safety precautions, including safety equipment, utility control, buddy system, and back-up teams.

SUMMARY AND TRANSITION

- Ask if any of the participants has questions about the role that CERT fire suppression groups will play immediately after a disaster.
- Introduce the session by telling the group that the session will provide them with the knowledge and skills they will need to extinguish small fires. The areas they will learn about include:
  - How fires start and what keeps them burning.
  - Hazardous materials identification and identification of fire hazards in the home, neighborhood, and office.
  - How to conduct a fire suppression assessment, or size-up.
  - The main firefighting resources that are available and how to use them.

INSTRUCTOR NOTES	CONTENT/ACTIVITY
	SUMMARY AND TRANSITION (Continued) • Procedures for safe firefighting. ▪ Tell the group that, at the end of the session, they will have an opportunity to use a portable extinguisher to put out a fire.
Total Topic: 10 minutes ? *Discussion question.* *If time permits, show one of the videos described earlier at this time.* *Visual 2.3* **Fire Chemistry**  Visual 2.3  *Participant Handbook, page PH II-4.*	**FIRE CHEMISTRY** ▪ Ask the participants if anyone knows what it takes for a fire to burn. If not mentioned by the group, explain that the three elements required for a fire to burn are: • *Heat.* The temperature at which a material produces a vapor, and the temperature at which the vapors will burn. • *Fuel.* The fuel for a fire may be a solid, liquid, or gas. The type and quantity of the fuel will determine which method should be used to extinguish the fire. • *Oxygen.* Fires will burn vigorously in any atmosphere of at least 20 percent oxygen. Without oxygen, fuel could be heated until entirely vaporized, yet would not burn. ▪ Explain that together, these three elements are called the *fire triangle.*

INSTRUCTOR NOTES	CONTENT/ACTIVITY

FIRE CHEMISTRY (Continued)

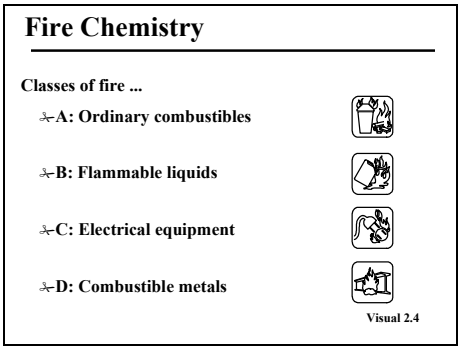
Ignite a rolled-up piece of cotton, place it inside a Pyrex® jar, and cover it tightly. Wait until the flame goes out. Then remove the material from the jar and blow on it to demonstrate that, unless the fire is completely out and overhauled, adding oxygen may complete the fire triangle and rekindle the fire.

- Demonstrate the concept of the fire triangle by removing the oxygen from burning cotton.

Reemphasize the need to overhaul Class A fires (i.e., ensuring that every piece of burning material is completely extinguished).

- Tell the participants that, to aid in extinguishing fires, fires are categorized into classes based on the type of fuel that is burning:
  - Class A Fires: Ordinary combustibles such as paper, cloth, wood, rubber, and many plastics.
  - Class B Fires: Flammable liquids (e.g., oils, gasoline) and combustible liquids (e.g., charcoal lighter, kerosene). These fuels burn only at the surface because oxygen cannot penetrate the depth of the fluid. Only the vapor burns when ignited.
  - Class C Fires: Electrical equipment (e.g., wiring, motors).
  - Class D Fires: Combustible metals (e.g., aluminum, magnesium, titanium).
- Stress that it is *extremely* important to identify the type of fuel to select the correct method and agent for extinguishing the fire.

Visual 2.4



INSTRUCTOR NOTES	CONTENT/ACTIVITY
	SUMMARY AND TRANSITION ▪ Ask the group if anyone has any questions about fire chemistry. ▪ Explain that the next part of the session will deal with hazardous materials.
YOUR NOTES:	

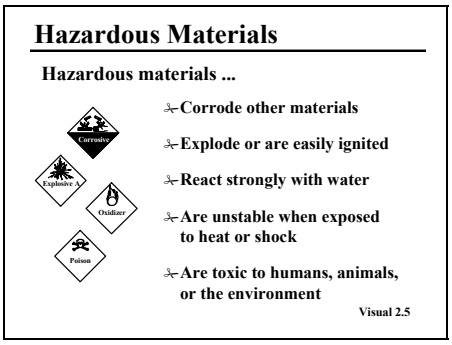
INSTRUCTOR NOTES | **CONTENT/ACTIVITY**

Total Topic: 10 minutes

Participant Handbook, page PH II-7.

? *Discussion question.*

Visual 2.5



HAZARDOUS MATERIALS

WHAT ARE HAZARDOUS MATERIALS?

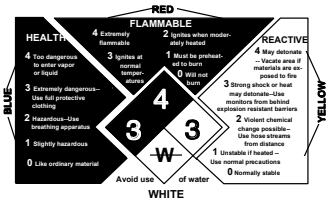
- Ask the participants how they know if a material is hazardous.

  If not mentioned by the group, remind them that materials are considered hazardous if they:

  - Corrode other materials.
  - Explode or are easily ignited.
  - React strongly with water.
  - Are unstable when exposed to heat or shock.
  - Are otherwise toxic to humans, animals, or the environment.

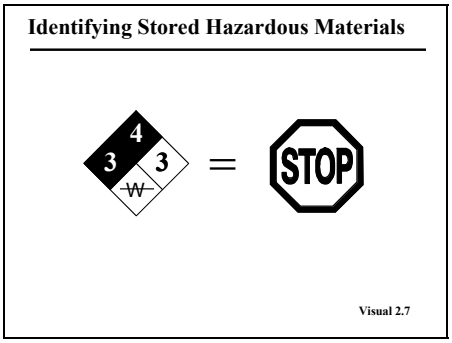
  Hazardous materials include, but are not limited to:

  - Explosives.
  - Flammable gas and liquid.
  - Poisons and poisonous gases.
  - Corrosives.
  - Nonflammable gas.
  - Oxidizers.
  - Radioactive materials.

INSTRUCTOR NOTES	CONTENT/ACTIVITY
	WHAT ARE HAZARDOUS MATERIALS? (Continued)
	▪ Emphasize that hazardous materials pose an ever-present danger. They are stored in all types of locations and are transported by a variety of means.
Participant Handbook, page PH II-8.	**IDENTIFYING STORED HAZARDOUS MATERIALS**
? *Discussion question.*	▪ Ask the participants if anyone has ever seen the symbol in the visual or one similar to it. Ask if anyone knows what it is or what it means. If not mentioned by the group, state that the visual is a placard that identifies stored hazardous materials.
Mention or use slides to illustrate local transportation hazards and any facilities that use the NFPA 704 Diamond, to provide more relevance to the discussion.	▪ Stress that CERT members should be able to recognize hazardous materials situations, but should not take action other than evacuating victims who are downwind as necessary.
Visual 2.6 **Identifying Stored Hazardous Materials**  Visual 2.6	
If possible, show the group an actual 704 placard to improve recognition.	▪ Explain that the placard is an *NFPA 704 Diamond*—the identification system instituted by the National Fire Protection Association. This placard would be found on a fixed facility.
Participant Handbook, page PH II-8.	▪ Tell the participants that the diamond is divided into four colored quadrants, each with a rating number inside it, and that the number indicates the degree of risk associated with the material. Refer the participants to the illustration in their Participant Handbooks.

INSTRUCTOR NOTES	CONTENT/ACTIVITY

Visual 2.7



IDENTIFYING STORED HAZARDOUS MATERIALS (Continued)

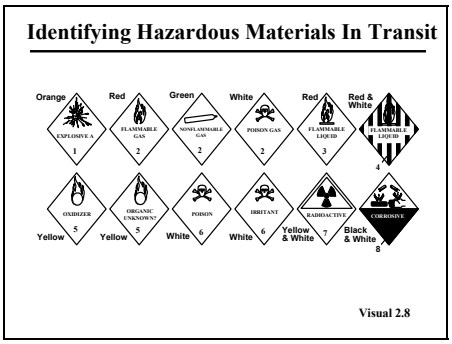
- Stress that the numbers within the 704 Diamond are for professional firefighter use only. *CERT members should consider these placards a "stop sign,"* unless in the planning stage the materials and dangers involved have been identified.

Participant Handbook, page PH II-9.

? *Discussion question.*

IDENTIFYING HAZARDOUS MATERIALS IN TRANSIT

Visual 2.8



- Ask the participants if any of them recognizes the placards in the visual.

  If not mentioned by the group, explain that they are Department of Transportation (DOT) placards. Explain that the DOT placard is one of three ways that hazardous materials are marked and identified while in transit. The other two ways are:

  - The United Nations (UN) system.
  - The North American (NA) warning placards.

- Point out that these placards can be on any vehicle, not only tankers. Also, emphasize that:

  - No placard is required for less than 1,000 pounds of materials.
  - Sometimes drivers forget to change the placard when they change their cargo. The group should use extreme caution when approaching any vehicle in an accident.

INSTRUCTOR NOTES	CONTENT/ACTIVITY

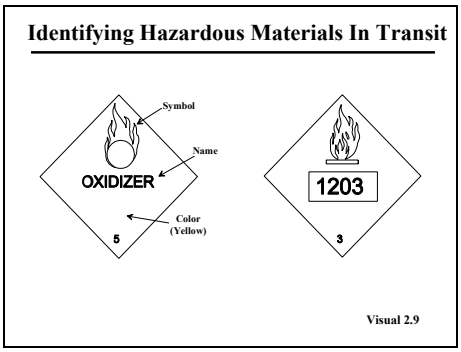
IDENTIFYING HAZARDOUS MATERIALS IN TRANSIT (Continued)

Participant Handbook, page PH II-9.

- Explain that the DOT placard color is also significant. Refer the participants to the placard illustrations in their Participant Handbooks.

If possible, show the participants actual DOT placards to improve recognition.

Visual 2.9



- Tell the group that this visual shows examples of the UN and NA systems. The UN and NA systems are displayed mainly on tank cars, cargo tanks, and portable tanks.

- Stress that the participants should always err on the side of safety. They should *not* assume that, because there is no placard, no hazardous materials are present. Suggest that the participants:

  - Talk to drivers or train crew members whenever possible.

  - Treat any unknown situation as a hazardous materials incident.

Participant Handbook, page PH II-9.

- Emphasize that, like the 704 Diamond, the DOT, UN, and NA placards should be a "stop sign" for CERT members.

DISASTER FIRE SUPPRESSION

INSTRUCTOR NOTES	CONTENT/ACTIVITY
	SUMMARY AND TRANSITION
? *Discussion question.*	▪ Ask the group if anyone has any questions about hazardous materials or how they are identified in storage or transport.
? *Discussion question.*	▪ Ask the group to identify potential hazards in their homes or workplaces. Instructor Note: You may want to develop pocket guides for the participants, consisting of a checklist or other system for evaluating hazards in the home or workplace. ▪ Emphasize that part of CERT planning is to preidentify hazardous material in your area that would affect you in a disaster. This information is important to professional responders when they arrive on scene. ▪ Explain that the next section will deal with identifying and preventing fire hazards in the home and office.
YOUR NOTES:	

INSTRUCTOR NOTES	CONTENT/ACTIVITY
 *Total Topic: 15 minutes*  *Participant Handbook, page PH II-11.*	**REDUCING FIRE HAZARDS IN HOME AND OFFICE**
? *Discussion question.*	▪ Ask the group how many of them are aware of the types of fire hazards that exist in their homes and offices. Then ask what measures they have taken to mitigate or prevent the hazards. ▪ Use the participants' responses to make the following points: • Each of us has some type of fire hazard in our home or office. Most of these hazards fall into three categories: - Electrical hazards - Natural gas hazards - Flammable or combustible liquids Point out that homes and offices can and do have other hazards also, including incompatible materials stored in close proximity to each other. • Simple fire prevention measures will go far in reducing the likelihood of fires: - First: *Locate* potential sources of ignition. - Second: Do what you can to *reduce or eliminate* the hazards.

INSTRUCTOR NOTES	CONTENT/ACTIVITY

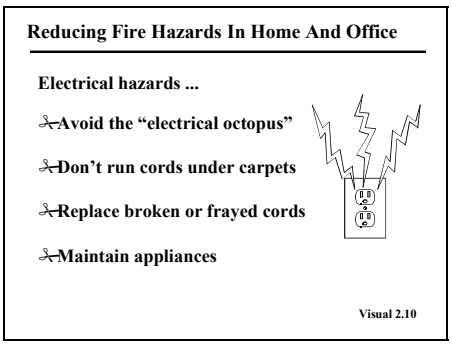
Participant Handbook, page PH II-11.

ELECTRICAL HAZARDS

- Provide the group with examples of common electrical hazards and simple ways that they can be reduced or eliminated:

  - Avoid the "electrical octopus." Eliminate tangles of electrical cords. Don't overload electrical outlets.
  - Don't run electrical cords under carpets.
  - Replace broken or frayed cords immediately.
  - Maintain electrical appliances properly. Repair or replace malfunctioning appliances.

Visual 2.10



Stress that the participants should <u>not</u> enter a flooded basement to shut off the electrical supply.

- Point out that sometimes emergencies occur despite our best efforts. In the event of an electrical emergency:

Participant Handbook, page PH II-12.

  - Know where the power shut-off for electrical appliances is.

  - Know where the power shut-off for circuit breakers or fuses is and how to shut off the power. *Unscrew individual fuses or switch off smaller breakers first, then pull the main switch or breaker. When turning the power back on, turn on the main switch or breaker first, then screw in the fuses or switch on the smaller breakers.*

Check with a representative of the local utility company regarding local utility protocols, and convey these to the participants. If possible, develop training models of fuse and breaker boxes to allow demonstrations and hands-on practice.

INSTRUCTOR NOTES	CONTENT/ACTIVITY

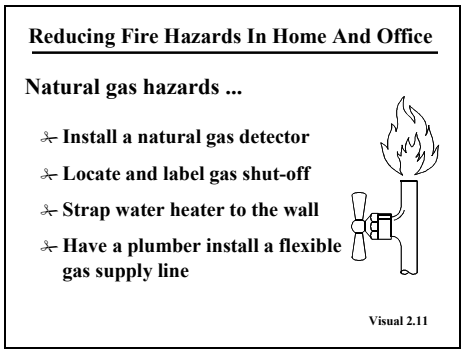
Participant Handbook, page PH II-13.

NATURAL GAS HAZARDS

- Provide the participants with several examples for reducing natural gas hazards:

  - Install a natural gas detector near your furnace and hot water tank. Test the detector monthly to ensure that it works.
  - Locate and label the gas shut-off valve. Know how to shut off the gas. Have the proper tool for shutting off the gas handy.

Visual 2.11



Participant Handbook, page PH II-14.

  - Strap the water heater to the wall in two places: 1/3 from the top and 1/3 from the bottom of the tank. Each strap should cross behind the water tank and fasten to wall studs behind the tank.
  - Have a licensed plumber install a flexible gas supply line.

Again, consult with a local utility representative to determine protocols and, if possible, create a model gas meter to demonstrate and allow practice with the procedure for shutting off the gas.

- Stress that in a disaster, if they smell gas of if there is a fire, the participants should turn off the gas supply at the meter or at a valve between the meter and the building. Once turned off, however, service can only be restored by a trained technician.

- Also, warn the participants to never enter the basement of a structure that is on fire to turn off any utility.

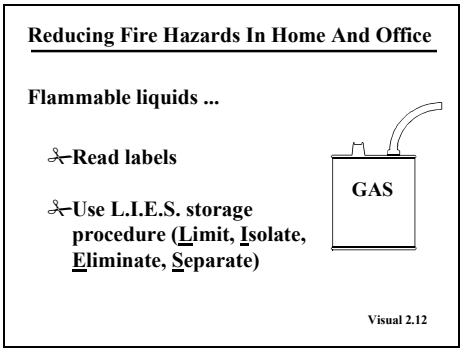
- Suggest that, in addition to other utilities, the participants turn off their water following a disaster, because the water in the hot-water tank may be siphoned off or contaminated if water main breaks or firefighting drains water from the pipes.

DISASTER FIRE SUPPRESSION

INSTRUCTOR NOTES | **CONTENT/ACTIVITY**

i *Participant Hand-book, page PH II-15. Visual 2.12*

Visual 2.12



Provide the group with information about safe disposal of hazardous materials in your area.

Total Topic: 5 minutes

Participant Handbook, page PH II-16.

FLAMMABLE LIQUID HAZARDS

- Provide several examples for reducing hazards from flammable liquids:
  - Read labels to identify flammable products.
  - Store them properly, using the L.I.E.S. method covered in Session I.
- Tell the group that they should extinguish a flammable liquid using a portable fire extinguisher rated for that class of fire. Explain that ratings for portable extinguishers will be addressed later in this session.

CERT SIZE-UP

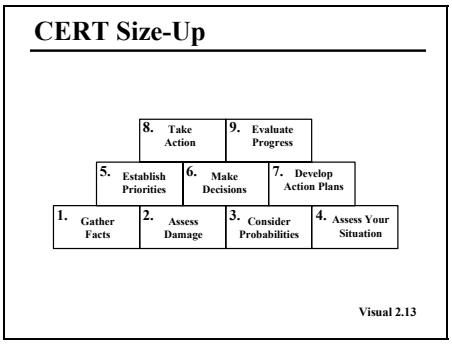
- Explain to the group that CERT size-up is a continuous data-gathering process that will dictate whether to attempt fire suppression, and planning for extinguishing the fire.
- Tell the group that CERT size-up answers the questions:
  - Can my buddy and I fight the fire safely?
  - Do my buddy and I have the right equipment?
  - Are there other hazards?
  - Is the building going to collapse?
  - Can my buddy and I escape?

INSTRUCTOR NOTES | **CONTENT/ACTIVITY**

CERT SIZE-UP (Continued)

If you feel it would be appropriate, you may simplify the size-up process to convey just the major elements.

Visual 2.13



- Explain that size-up is a continuing nine-step process that enables first responders to make decisions and respond appropriately in the areas of greatest need. The nine steps in size-up are:

  1. Gather facts.
  2. Assess (by taking a lap around the building) and communicate the damage.
  3. Consider probabilities.
  4. Assess your own situation.
  5. Establish priorities.
  6. Make decisions.
  7. Develop action plans.
  8. Take action.
  9. Evaluate progress.

Provide examples to show the difference between fire department size-up and CERT size-up.

Instructor Note: Point out that while size-up is a fire department term, the process has been tailored for CERTs and will be used again in other areas of CERT responsibility. Provide several examples to illustrate the differences between fire department size-up and CERT size-up.

Participant Handbook, page PH II-17.

- Refer the participants to the fire suppression size-up checklist in their Participant Handbooks. Point out that, although the checklist is not all-inclusive, it does include many of the questions that CERT members should ask when sizing up a fire situation. Review the checklist with the group.

DISASTER FIRE SUPPRESSION

INSTRUCTOR NOTES	CONTENT/ACTIVITY
	SUMMARY AND TRANSITION
? *Discussion question.*	▪ Ask the group if anyone has any questions about CERT size-up. ▪ Explain that after sizing up the situation, the next step is to identify the resources that are possible for fire suppression.
YOUR NOTES:	

INSTRUCTOR NOTES | **CONTENT/ACTIVITY**

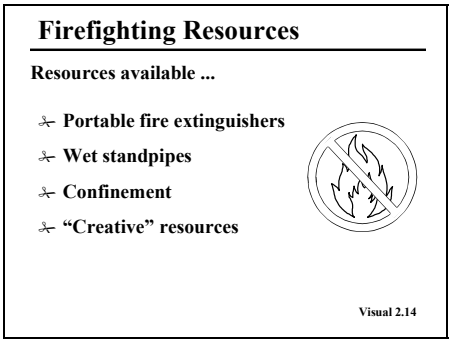
Total Topic: 25 minutes

Participant Handbook, page PH II-21.

? *Discussion question.*

FIREFIGHTING RESOURCES

Visual 2.14



If the participants are from neighborhood CERTs, do not train about wet standpipes.

If the participants might be expected to use a wet sandpipe in a disaster situation, it is recommended that they be given practice in the use of one.

- Ask the participants what comes to mind when they think about firefighting resources.

  If not mentioned, tell the group that the most common firefighting resources are:

  - Portable fire extinguishers.
  - Interior wet standpipes.

- Remind the participants that portable fire extinguishers are invaluable for putting out small fires. A well-prepared home or office will have at least two.

- Explain that interior wet standpipes are usually in commercial and apartment buildings and consist of 100 feet of 1½-inch jacketed hose with a 3/8-inch nozzle tip. They deliver up to 125 gallons of water per minute.

- Caution the group to always work in 3-person teams when using an interior wet standpipe. One person handles the hose, another bleeds the air from the line, and the third person controls the water pressure.

- Point out that there are also other firefighting resources available that are less common:

  - In interior spaces, it is possible to *confine* a fire and restrict the spread of smoke and heat by closing doors to rooms and hallways.

INSTRUCTOR NOTES	CONTENT/ACTIVITY

FIREFIGHTING RESOURCES (Continued)

- Other *creative* resources may also be available:
  - Swimming pool or spa water, and buckets.
  - Sand or dirt and shovels.
  - Garden hose.

- Emphasize that the type of fuel that is burning will determine which resources to select in a fire.

- Add that, because portable fire extinguishers are most common, this session will focus on them.

Participant Handbook, page PH II-22.

EXTINGUISHER RATING AND LABELING

- Tell the group that portable fire extinguishers must be rated and approved by the State Fire Marshal and Underwriters' Laboratories. They are rated according to their effectiveness on classes of fire. Their strength and capability must also be labeled by the manufacturer.

- Explain to the participants that the label contains vital information about the type(s) of fire for which the extinguisher is appropriate.

INSTRUCTOR NOTES	CONTENT/ACTIVITY
 *Participant Handbook, page PH II-23.*	**TYPES OF FIRE EXTINGUISHERS**
? *Discussion question.*	▪ Ask the participants to list as many types of portable fire extinguishers as possible. If not mentioned, tell the group that there are five types of extinguishers: • Water • Dry chemical • Halon • Carbon dioxide • Foam
 *Participant Handbook, page PH II-24.*	▪ Explain that the next section will briefly describe the characteristics of each type of fire extinguisher. Refer the participants to the fire type/agent/method chart in their Participant Handbooks for an overview of this information.

INSTRUCTOR NOTES	CONTENT/ACTIVITY
	TYPES OF FIRE EXTINGUISHERS (Continued)
Display a water extinguisher.	▪ Tell the group that water extinguishers are among the most commonly used. They are excellent for heat removal for Class A fires. Common characteristics of water extinguishers include: • Capacity. Standard size is 2½ gallons. • Range. Standard range is 30-40 feet. • Pressure. Standard pressure is 110 pounds per square inch, or psi.
	▪ Warn the group to use extreme caution when using a water extinguisher to ensure that the water, which is under pressure, does not scatter lightweight materials and spread the fire.
Display a dry chemical extinguisher.	▪ Tell the participants that dry chemical extinguishers are also common. Regular dry chemical extinguishers have a sodium bicarbonate base and are effective on Class B and C fires. Multipurpose dry chemical extinguishers have a monoammonium phosphate base and are effective for Class A, B, and C fires. Common characteristics of dry chemical extinguishers include: • Capacity. Approximately 10-20 seconds discharge time. • Range. Standard is 8-12 feet. • Pressure. Standard is 175-250 psi.

INSTRUCTOR NOTES	CONTENT/ACTIVITY

TYPES OF FIRE EXTINGUISHERS (Continued)

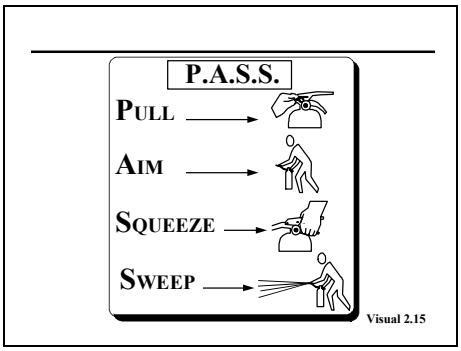
- Explain that, while still in use, carbon dioxide, halon, and foam extinguishers are becoming less common:
  - Carbon dioxide extinguishers are used mainly on Class C fires but are also effective for Class B fires. They have limited use on Class A fires because of reflash potential. They work by displacing or diluting oxygen levels.
  - Halon extinguishers are best used on Class B and C fires. Halon is a clean agent and is nontoxic when used in low concentrations or in nonconfined areas. Halon extinguishers are being phased out because of their potential impact on the environment.
  - Foam extinguishers are used for special applications and are less common.

Participant Handbook, page PH II-26.

DECIDING TO USE A FIRE EXTINGUISHER

- Tell the participants that there are a series of questions they should ask themselves before attempting to fight a fire with a fire extinguisher.
- Stress that if the participants answer "NO" to <u>any</u> of these questions, they should:
  - Leave the building immediately.
  - Shut all doors as they leave to slow the speed of the fire.
- Tell the participants that if all the answers to the questions are "YES", they may attempt to extinguish the fire. Emphasize that even if they answer "YES" to all questions, but feel unable to extinguish the fire they should leave immediately.

INSTRUCTOR NOTES	CONTENT/ACTIVITY
 *Participant Handbook, page PH II-26.*	**DECIDING TO USE A FIRE EXTINGUISHER** (Continued) ▪ Refer the group to the decision making guide in the Participant Handbooks, and review the decisions with the group: • Can I escape quickly and safely from the area if I attempt to extinguish the fire? (First priority for you and your buddy is safety.) • Do I have the right type of extinguisher? • Is the extinguisher large enough for the fire? • Is the area free from other dangers, such as hazardous materials and falling debris?
? *Discussion question.*	▪ Ask the participants if they have any questions about how to use this decision making guide.
 *Participant Handbook, page PH II-27.*	**OPERATING A FIRE EXTINGUISHER**
? *Discussion question.*	▪ Ask the group how many have had to operate a portable fire extinguisher. After a show of hands, ask a few participants to share their results. Use their comments to introduce this section.
Demonstrate using a portable extinguisher.	▪ Begin by explaining that a portable fire extinguisher includes four components: • A pressure gauge. • A hose. • A cylinder. • A carrying handle with trigger.

INSTRUCTOR NOTES	CONTENT/ACTIVITY
	OPERATING A FIRE EXTINGUISHER (Continued)
Visual 2.15 	▪ Tell the group that they should always operate portable fire extinguishers in an upright position. Explain that the acronym for operating a fire extinguisher is P.A.S.S.: • Pull • Aim • Squeeze • Sweep Emphasize the need to aim at the base of the fire, and explain that each participant will have the opportunity to practice this technique near the end of the session.
Demonstrate P.A.S.S. during the explanation.	
	SUMMARY AND TRANSITION
? *Discussion question.*	▪ Ask if anyone has any questions about portable fire extinguishers or their operation. ▪ Explain that the next section will cover the safety rules to follow when suppressing fires.

YOUR NOTES:

DISASTER FIRE SUPPRESSION

INSTRUCTOR NOTES | **CONTENT/ACTIVITY**

Total Topic: 10 minutes

Participant Handbook, page PH II-29.

FIRE SUPPRESSION SAFETY

- Remind the participants that, as CERT members, fire suppression will be one of their roles but emphasize that—even in a disaster—their personal safety must be their number one concern. Stress that they will be unable to help anyone if they are injured through carelessness.

- Refer the group to the list of fire suppression safety rules in the Participant Handbooks and review the list with the group:

Visual 2.16

For planning purposes, explain that a small fire:

- *Is about the size of a student desk.*
- *Can be extinguished with one fire extinguisher.*

Add personal experiences and examples.

- Do *not* attempt to suppress a fire that is clearly too large for the equipment at hand (i.e., a fire that is larger than the combined ratings of available fire extinguishers).

- Use safety equipment, including all-leather gloves.

- Work in a buddy system. No one should *ever* attempt to suppress a fire alone.

- Have a backup team. Remind the group that unplanned events can occur when firefighting. Have backup available in case help is needed.

- Always have two ways to exit the fire area.

INSTRUCTOR NOTES	CONTENT/ACTIVITY

FIRE SUPPRESSION SAFETY (Continued)

- Approach smoke-filled areas correctly. The main ingredient in smoke is carbon monoxide. Without proper self-contained breathing apparatus, firefighting will be limited. Use extreme caution when entering smoke-filled areas:

  - Feel closed doors with the back of the hand, working from the bottom of the door to the top. If the door is hot, do not open it.
  - Confine the fire whenever possible by keeping doors closed.
  - Stay low to the ground.
  - Always know a second escape route.
  - Use natural ventilation to clear smoke.

Point out that the participants should wear gloves when checking closed doors to prevent a potentially disabling burn. Emphasize that the metal parts of a door may be extremely hot if there is fire behind the door, and that touching the door handle should be avoided.

- Maintain a safe distance from the fire. Remember the effective extinguisher range.

- Move around the perimeter of the fire to maximize coverage of the extinguisher agent.

Remind the group of the earlier demonstration (using burning cotton in the Pyrex® jar) to stress the need for overhauling.

- Overhaul to prevent rekindling of the fire:

  - Locate hidden burning material. Extinguish it and safely remove it.
  - Remove heat by cooling.

DISASTER FIRE SUPPRESSION

INSTRUCTOR NOTES	CONTENT/ACTIVITY
? *Discussion question.*	**SUMMARY AND TRANSITION** ▪ Ask the group if anyone has any questions about fire suppression safety. ▪ Tell the group that they are going to practice what they've learned by extinguishing a burning liquid.
 *Total Exercise: 60 minutes* *Prepare a flammable liquid fire source outside in an area with at least 40 feet open space upwind of the fire source. Provide Class B:C portable extinguishers. (Most fire extinguisher service companies will provide extinguishers for this purpose if acknowledged. Contact local companies for support.)* *Ensure that all participants are wearing leather gloves for this exercise.*  *Pair off the participants.* *Using a road flare mounted on a long pole, light a flame in a pan containing a layer of water beneath a layer of gasoline/diesel fuel mixture.*	**EXERCISE: FIRE SUPPRESSION** Instructor Note: This exercise will provide the participants with experience in two key areas of fire suppression: • Using a portable fire extinguisher to suppress a flammable liquid fire. • Applying teamwork to fire suppression. Dress for this exercise is casual. However, shorts and open-toed shoes should not be permitted. This exercise requires two instructors: Instructor 1 will lead the exercise. Instructor 2 will observe and serve as the exercise Safety Officer. ▪ Follow the steps below to facilitate this exercise. 1. Divide the participants into two-person teams. 2. Taking one team at a time, provide each team member with a portable fire extinguisher. 3. Instructor 2 will light the fire when Instructor 1 indicates that the participants are ready to begin the exercise.

INSTRUCTOR NOTES	CONTENT/ACTIVITY

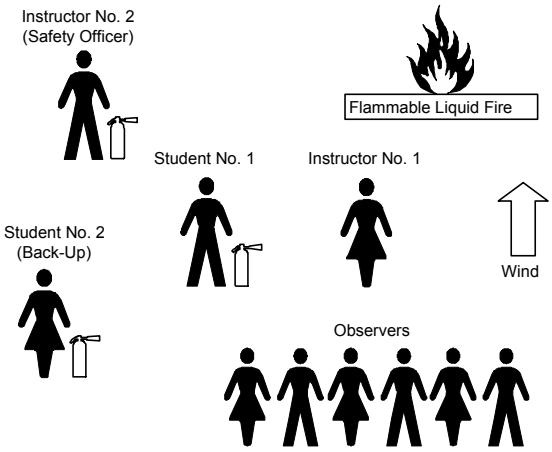
Coach the participants through this exercise using the following:

- *Participants must communicate with each other. The emphasis is on safety and teamwork.*
- *When ready to approach the fire, Participant 1 should say "Ready." Participant 2 should repeat "Ready."*
- *As Participant 1 begins to move forward, he or she should say "Going in." Participant 2 should repeat the command and stay 5 to 10 feet behind Participant 1.*
- *Both participants should walk towards the fire.*
- *Participant 1 should watch the fire and Participant 2 should watch Participant 1.*
- *Participant 2 must stay to the rear of Participant 1. Participant 2's job is to protect Participant 1.*

EXERCISE: FIRE SUPPRESSION
(Continued)

4. Ask Participant 1 to assume the "ready" position, with pin pulled, extinguisher aimed and upright, approximately 20 to 25 feet from the fire.

5. Ask Participant 2 to act as backup, assuming the "ready" position but remaining 5 to 10 feet behind Participant 1.



6. Position Instructor 1 between the participants and the fire at all times.

7. Ask Participant 1 to approach the fire from the windward side (i.e., with the wind to the participant's back). When approximately 10 feet from the fire, Participant 1 should begin to discharge the extinguisher at the base of the fire, continuing the approach until the range for the extinguisher is optimal.

INSTRUCTOR NOTES	CONTENT/ACTIVITY
	EXERCISE: FIRE SUPPRESSION (Continued)
• *When Participant 1 is exiting the fire area, he or she should say "Backing out." Participant 2 should repeat the command and back out while watching for the safety of Participant 1.*	8. Participant 1 should sweep the base of the fire until it is extinguished.
Remind the participants that they should: • *Identify two exit routes in advance.* • *Check the wind direction.* • *Try to determine if the fire is spreading and where it would be in the next 30 seconds.*	
If time permits, allow each participant to use the extinguisher twice, to provide added practice.	▪ After the fire is extinguished, ask the participants to trade positions and repeat the exercise. ▪ Repeat this exercise with the other teams until all participants have had the opportunity to extinguish the fire.
YOUR NOTES:	

INSTRUCTOR NOTES	CONTENT/ACTIVITY

Total Topic:
5 minutes

Participant Handbook, page PH II-31.

Present key points.

SESSION SUMMARY

- Summarize the key points in this session.
  - Effective fire suppression depends on an understanding of:
    - The type of fuel involved.
    - The elements required for fire to exist.
    - The class of fire.
    - The resources required and available to extinguisher each type of fire.
    - Effective fire suppression techniques.
  - Fire requires heat, fuel, and oxygen to exist.
  - There are four types, or classes, of fire:
    - Class A. Ordinary combustibles.
    - Class B. Flammable liquids.
    - Class C. Electrical equipment.
    - Class D. Combustible metals.

    It is extremely important to identify the class of fire to select the proper means of extinguishment.
  - To help understand the types of materials, there are several methods of placarding hazardous materials being stored or transported, including NFPA, DOT, UN, and NA. When faced with accidents involving materials that are placarded as hazardous—or when the material is unknown—*keep away and call for professional help immediately.*
  - Portable fire extinguishers are most frequently used for suppressing small fires. Their labels tell the types of fires for which they are effective and the area that they can suppress.

INSTRUCTOR NOTES	CONTENT/ACTIVITY
	SESSION SUMMARY (Continued) • When using portable fire extinguishers, remember P.A.S.S.: Pull, Aim, Squeeze, and Sweep. • When suppressing a fire, *always* follow the safety rules established for CERTs. ▪ Remind the participants that, before the next session, they should: • Read and familiarize themselves with Chapter III: Disaster Medical Operations—Part I in their Participant Handbooks. • Obtain and bring to the session: - 1 box of 4 × 4 bandages - 1 triangular bandage - 1 roll of roller gauze - 1 medical mask - 1 pair of latex examination gloves - 1 blanket ▪ Ask the participants to wear comfortable clothes for the next session, since they will be practicing medical techniques. ▪ Thank the participants for attending the session. Remind them of the date and time for the next session if necessary.
YOUR NOTES:	

COMMUNITY EMERGENCY RESPONSE TEAM